Amendments to the Claims

Please cancel claims 26-28, 32, 33, and 41-85. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Previously Presented) A method for automatically assigning a network address to a given network node attached to a packet communication network, the method comprising the steps of:

communicating with at least one other network node to collect information from inter-node communication packets containing network address information other than an address assignment to the given network node for which an available network address is to be automatically assigned, the given network node coupled to a subnet;

posing as a node having an IP address considered by nodes on the subnet as being external from the subnet, communicating with the at least one other network node also coupled to the subnet as determined from the network address information in the inter-node communication packets to find an assigned IP address on the subnet;

determining the available network address based on the network address information contained in collected inter-node communication packets; and

assigning the available network address to the given network node.

2. (Previously Presented) The method according to Claim 1, wherein the step of determining includes, in the given network node, building lists including:

network addresses determined to be on the network; and

network addresses included in the inter-node communication packets but not determined to be on the network.

3. (Previously Presented) The method according to Claim 2, wherein the step of determining includes building a list of network addresses by adding the network addresses and network addresses included in the inter-node communication packets that

are undetermined network addresses by observing network addresses in ARP request messages in the communication packets.

4. (Original) The method according to Claim 1, wherein the step of determining includes issuing ICMP requests as general broadcast requests and local subnet broadcast requests.

5-11 (Cancelled)

12. (Original) The method according to Claim 1, wherein the step of determining includes finding one unused IP address based on one known IP address.

13. (Previously Presented) The method according to Claim 12, wherein, for the given network node being coupled to a subnet in the packet communications network, the step of finding includes:

calculating an IP address that is external from said subnet; and

contacting a node having the known IP address to determine whether the node at the known IP address has knowledge of a subnet mask associated with said subnet.

14. (Original) The method according to Claim 12, wherein the step of finding includes:

creating candidate subnet IP addresses; and

verifying at least one candidate subnet IP address is not in use.

15. (Original) The method according to Claim 14, wherein the step of verifying includes:

contacting a node at a known IP address for each candidate subnet IP address; and

monitoring network communication packets for deterministic network address information.

16. (Original) The method according to Claim 15 wherein deterministic network address information is parsed out of ARP requests.

17. (Original) The method according to Claim 14, wherein the step of verifying includes correcting an IP conflict caused by verifying a candidate IP subnet address is not in use.

18. (Previously Presented) The method according to Claim 12, further including a step of locating an IP address for at least one subnet router.

19. (Previously Presented) The method according to Claim 18, wherein the step of locating includes (i) using the unused IP address, and (ii) provoking some responses from other subnet nodes.

20. (Previously Presented) The method according to Claim 18, wherein the step of locating includes contacting other network nodes at IP addresses from collected network address assignment information for the identifying a router from among the at least one other network node.

21. (Original) The method according to Claim 20, wherein the step of contacting includes setting a router variable to elicit a known, router-specific response.

22. (Original) The method according to Claim 1, wherein the step of determining includes isolating a subnet mask.

23. (Previously Presented) The method according to Claim 22, wherein the step of isolating includes searching potential subnet masks in a binary search manner for a subnet mask boundary between ones and zeros.

24. (Previously Presented) The method according to Claim 1, wherein the step of assigning the available network address includes performing a final check to ensure the available network address is not in use.

25. (Previously Presented) The method according to Claim 24, wherein performing the final check includes correcting an IP conflict occurring during performing the final check.

26-28. (Cancelled)

29. (Previously Presented) A network node capable of automatically assigning a network configuration, comprising:

an interface in the network node coupled to a subnet in a network, the subnet including at least one other network node; and

a processor operating a processor routine, the processor being coupled to the interface to:

issue network packets, including network packets with address information for posing as a network node having an IP address causing nodes on the subnet other than the network node to consider the network node as being external from the subnet, to the interface; and

access responses in a form of plural inter-node communication packets from the at least one other network node to determine an available network address to assign to the network node by analyzing collected network address information contained in the plural inter-node communication packets.

30. (Original) The network node according to Claim 29, wherein the processor routine parses responses from other network nodes to determine a subnet address of at least one subnet router.

31. (Previously Presented) The network node according to Claim 30, wherein the processor routine further:

contacts a database via the subnet router; and

retrieves a network configuration from the database.

32-33. (Cancelled)

34. (Previously Presented) An apparatus coupled to a network having multiple network nodes, the apparatus comprising:

a storage means that stores a processor routine for determining an available network configuration; and

a processor loading the processor routine, the processor being commanded by the processor routine to:

access the network including posing as a network node, the network node considered by nodes on a subnet to which the apparatus is coupled as being external from the subnet;

determine the available network configuration; and

cause the network node to assume the available network configuration.

35. (Original) The apparatus according to Claim 34, wherein the processor communicates with other network nodes.

36. (Previously Presented) The apparatus according to Claim 34, wherein the network node is a first network node and the processor locates a router to access a second network node, the second network node providing a list of unassigned permanent network configurations.

37. (Original) The apparatus according to Claim 36, wherein the processor:
retrieves an unassigned permanent network configuration; and
stores the permanent network configuration to the storage means.

38. (Previously Presented) A processing device for automatically assigning a network configuration to a network node coupled to a network, the processing device comprising:

means for gathering network addresses;

means for posing as a network node on the network for gathering additional network addresses, the network node in a subnet but considered by nodes in the subnet as being external from the subnet;

means for discriminating assigned network addresses from among the gathered network addresses; and

means for determining an available network address in the subnet to assign to the network node by analyzing plural network communication packets for use in automatically assigning the network configuration to the network.

39. (Original) The processing device according to Claim 38 further including a means for determining a network address of at least one network router.

40. (Previously Presented) The processing device according the Claim 38, wherein the means for determining an available network address includes further accessing a list of available network configurations.

41-85. (Cancelled)